

Patent claims

1. Method of coating an optically readable data carrier (6), according to which a transparent adhesive film (25) that has adhesive on one side is applied to a surface of the data carrier (6) that is to be protected.

2. Method in accordance with claim 1, characterized in that said adhesive film (25) is withdrawn from a carrier film (26) during or after application to said data carrier (6).

3. Method in accordance with claim 1 or 2, characterized in that a protective film is withdrawn from said adhesive film (25) prior to its application to said data carrier (6).

4. Method in accordance with any of the preceding claims, characterized in that the shape and size of said adhesive film (25) corresponds to the surface of said data carrier (6) to be protected.

5. Method in accordance with claim 4, characterized in that sections (27) of said adhesive film (25) that correspond to the shape and size of said data carrier (6) are punched onto said carrier film (26).

6. Method in accordance with any of the preceding claims, characterized in that said adhesive film (25) is applied centered on the surface of said data carrier (6) to be protected.

7. Method in accordance with claim 6, characterized in that said adhesive film (25) and said data carrier (6) are aligned with one another prior to application.
8. Method in accordance with any of the preceding claims, characterized in that said adhesive film (25) is pressed onto said data carrier (6) during the application via a rotating pressure roller (33).
9. Method in accordance with claim 8, characterized in that the pressure of said pressure roller (33) is controlled.
10. Method in accordance with any of the preceding claims, characterized in that prior to pressing by said pressure roller (33) said adhesive film (25) is held at a pre-specified angle relative to the surface of said data carrier (6).
11. Method in accordance with any of the preceding claims, characterized in that the data carrier (6) and the pressure roller (33) are moved relative to one another.
12. Method in accordance with claim 11, characterized in that said data carrier (6) is moved past said pressure roller (33) linearly.
13. Method in accordance with claim 11 or 12, characterized in that said pressure roller (33) is rotated synchronously with the relative movement of said data carrier (6).
14. Method in accordance with any of the preceding claims, characterized in that the adhesive film (25) is a layer of adhesive material without carrier material.

15. Method in accordance with claim 14, characterized in that the adhesive film (25) is hardened with pressure and/or time.
16. Method in accordance with claim 15, characterized in that the adhesive film (25) is hardened via UV radiation.
- 5 17. Method in accordance with claim 15, characterized in that the adhesive film (25) is hardened by means of a thermal treatment.
18. Method in accordance with any of claims 1 to 13, characterized in that a transparent protective layer, in particular a PC tape, is applied to the non adhesive side of the adhesive film (25).
- 10 19. Method in accordance with any of the preceding claims, characterized in that the adhesive film (25) is an adhesive film that responds to pressure, the adhesion characteristics of which vary as a function of the pressure.
- 15 20. Apparatus for coating an optically readable data carrier (6) with a laminating station (7) for applying a transparent adhesive film (25) that is provided with adhesive on one side onto a surface of the data carrier (6) that is to be protected.
- 20 21. Apparatus in accordance with claim 20, characterized in that the shape and size of said adhesive film (25) correspond to the surface of said data carrier (6) that is to be protected.
22. Apparatus in accordance with either of claims 20 or 21, characterized in that sections (27) of said adhesive film (25) that correspond to the shape and size of said surface of the data

carrier (6) that is to be protected are punched onto a carrier film (26).

23. Apparatus in accordance with any of claims 20 to 22, characterized in that said laminating station (7) has an aligning unit for aligning said adhesive film (25) with the surface of said data carrier (6) to be protected.

24. Apparatus in accordance with any of claims 20 to 23, characterized in that the laminating station (7) has a rotatable pressure roller (33).

25. Apparatus in accordance with any of claims 20 to 24, characterized in that the laminating station (6) has a device for moving the data carrier (6) and/or the pressure roller (33).

26. Apparatus in accordance with any of claims 20 to 5, characterized in that the device has at least one linear movement unit (27) for the data carrier (6).

27. Apparatus in accordance with any of claims 20 to 26, characterized by a device for withdrawing a protective film (25) from the adhesive film.

28. Apparatus in accordance with any of claims 20 to 27, characterized in that the adhesive film (25) has a protective layer, in particular a PC tape, on its non adhesive side.

29. Apparatus in accordance with any of claims 20 to 27, characterized by a device for hardening the adhesive film (25).

30. Apparatus in accordance with claim 29, characterized in that the device for hardening the adhesive film (25) has an irradiation unit.
- 5 31. Apparatus in accordance with claim 29, characterized in that the device for hardening the adhesive film (25) has a thermal treatment unit.
32. Optically readable data carrier (6) having a transparent protective layer, characterized in that the protective layer is an adhesive film (25) that is provided with adhesive on one side.
- 10 33. Data carrier in accordance with claim 32, characterized in that the adhesive film (25) is a layer of an adhesive material without carrier material.
34. Data carrier in accordance with claim 32, characterized in that a protective layer, in particular a PC tape, is provided on the non-adhesive side of the adhesive film.
- 15 35. Data carrier in accordance with claim 32 or 33, characterized in that the adhesive film (25) can be hardened.
36. Data carrier in accordance with any of claims 32 to 35, characterized in that the data carrier (6) is disposed in a protective housing.
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37. A method of coating an optically readable data carrier, including the step of:

applying a transparent adhesive film to a data carrier surface that is to be protected, wherein said adhesive film is provided with adhesive on one side.

38. A method according to claim 37, which includes the step of withdrawing said adhesive film from a carrier film during or after application of said adhesive film to said data carrier surface.

39. A method according to claim 37, which includes the step of withdrawing a protective film from said adhesive film prior to application of said adhesive film to said data carrier surface.

40. A method according to claim 37, wherein a shape and size of said adhesive film corresponds to said data carrier surface.

41. A method according to claim 40, wherein sections of said adhesive film that correspond to a shape and size of said data carrier surface are punched onto a carrier film.

42. A method according to claim 37, wherein said adhesive film is applied to said data carrier surface in a centered manner.

43. A method according to claim 42, wherein said adhesive film and said data carrier surface are aligned with one another prior to said applying step.

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44. A method according to claim 37, wherein during said applying step said adhesive film is pressed against said data carrier surface via a rotating pressure roller.

45. A method according to claim 44, which includes the step of controlling a pressure of said pressure roller.

46. A method according to claim 44, wherein prior to being pressed by said pressure roller, said adhesive film is held at a pre-specified angle relative to said data carrier surface.

47. A method according to claim 44, wherein said pressure roller and said data carrier surface are moved relative to one another.

48. A method according to claim 47, wherein said data carrier surface is moved linearly past said pressure roller.

49. A method according to claim 47, wherein said pressure roller is rotated synchronously to a relative movement of said data carrier surface.

50. A method according to claim 37, wherein said adhesive film is a layer of adhesive material without carrier material.

51. A method according to claim 50, wherein said adhesive film is hardened via at least one of pressure, time, UV radiation and thermal treatment.

52. A method according to claim 37, wherein a transparent protective layer, especially a PC tape, is applied to a non-adhesive side of said adhesive film.

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53. A method according to claim 37, wherein said adhesive film is an adhesive film that responds to pressure, and wherein the adhesion characteristics of said adhesive film vary as a function of pressure.

54. An apparatus for coating an optically readable data carrier, comprising:

a laminating station for applying a transparent adhesive film to a data carrier surface that is to be protected, wherein said adhesive film is provided with adhesive on one side.

55. An apparatus according to claim 54, wherein a shape and size of said adhesive film correspond to said data carrier surface.

56. An apparatus according to claim 54, wherein sections of said adhesive film that correspond to a shape and size of said data carrier surface are punched onto a carrier film.

57. An apparatus according to claim 54, wherein said laminating station is provided with an aligning unit for aligning said adhesive film with said data carrier surface.

58. An apparatus according to claim 54, wherein said laminating station is provided with a rotatable pressure roller.

59. An apparatus according to claim 58, wherein said laminating station is provided with a device for moving at least one of said pressure roller and said data carrier surface.

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60. An apparatus according to claim 59, wherein said device is provided with at least one linear movement unit for said data carrier surface.

61. An apparatus according to claim 54, which includes a device for withdrawing a protective film from said adhesive film.

62. An apparatus according to claim 54, wherein said adhesive film is provided with a protective layer, especially a PC tape, on a non-adhesive side thereof.

63. An apparatus according to claim 54, which includes a device for hardening said adhesive film.

64. An apparatus according to claim 53, wherein said device for hardening said adhesive film is provided with an irradiation unit or a thermal treatment unit.

65. An optically readable data carrier comprising:
a transparent protective layer in the form of an adhesive film that is provided with an adhesive on one side.

66. A data carrier according to claim 65, wherein said adhesive film is a layer of adhesive material without carrier material.

67. A data carrier according to claim 65, wherein a protective layer, especially a PC tape, is provided on a non-adhesive side of said adhesive film.

68. A data carrier according to claim 65, wherein said adhesive film can be hardened.

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69. A data carrier according to claim 65, which includes a protective housing, and wherein said data carrier is disposed in said protective housing.

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